ASSIGNMENT 2

Textbook Assignment: "Computer Configuration and Hardware," chapter 2—continued, pages 2-13 to 2-27; "Computer Operator Controls and Controlling Units," pages 3-1 through 3-15.

2-1. How do manufacturers key subassemblies to avoid incorrect installation?

1. They tag the subassembly with the connect location
2. They write the location on the part with indelible ink
3. They make the designation very clear in the technical manual
4. They cut a slot in the side of the pcb or put plastic sheeting on one or more connector pins

2-2. All subassemblies are repairable at the work station.

1. True
2. False

2-3. The majority of a computer's functional areas consists of which of the following components?

1. Motherboards
2. Power drivers
3. Random access memories
4. Printed circuit boards

2-4. What factor determines the number of printed circuit boards required for a particular computer?

1. Type of computer
2. Portability of computer
3. Accessibility of one computer to another computer
4. Danger of electronic emissions near the work station

2-5. The arrangement of pcb's in a computer is dictated by which of the following factors?

1. Type of computer
2. Purpose of the computer
3. Location of the computer
4. Software programs to be used

2-6. Keying pcb's is done for which of the following reasons?

1. To ensure that the pcb is inserted correctly only
2. To ensure that a different card type is not inserted into an incorrect slot only
3. To ensure that the pcb is inserted correctly and to ensure that a different card type is not inserted into an incorrect slot
4. To facilitate ease of location in an emergency situation

2-7. You should know the color codes of pcb's. You will find these color codes explained in which of the following publications?

1. NEETS, Module 3
2. NEETS, Module 4
3. NEETS, Module 19
4. NEETS, Module 21

2-8. LEDs are used for which of the following maintenance functions on pcb's?

1. To test voltage levels
2. To test waveforms
3. To tell when equipment is operating abnormally
4. Each of the above

2-9. Which of the following publications provides a listing for standard external interfaces?

1. MIL-STD-2000
2. MIL-STD-2036
3. NEETS, Module 4
4. NEETS, Module 24

2-10. Which of the following documents provide(s) maintenance information on connectors and cables?

1. Computer technical manuals
2. EIMB, Installation Standards, NAVSEA0967-LP-000-0110
3. Both 1 and 2 above
4. MIL-STD-2036

2-11. Connector receptacles are also known as what?

1. Printed circuit boards
2. Subassemblies
3. Modules
4. Jacks

2-12. Mating of a connection only includes electrical pins and contacts or pcb card-edge.

1. True
2. False

2-13. A rectangular connector's electrical contacts or pins may have which of the following characteristics?

1. Be male or female, flat or oval
2. Be male or female, round or flat
3. Be male or female, round or oval
4. Be oval, round, or rectangular

A. Single-piece pcb or card edge
B. Two-piece plug and receptacle pcb
C. Rectangular multipin
D. Circular multipin
E. Coaxial

Figure 2A.—Connector architecture.

IN ANSWERING QUESTIONS 2-14 THROUGH 2-19, SELECT FROM FIGURE 2A THE TYPE OF CONNECTOR ARCHITECTURE DESCRIBED IN THE QUESTION.

2-14. Which item can contain more than 100 pins and contacts?

1. A
2. B
3. C
4. E

2-15. MTIDC or IDC are included in all except which of the following connectors?

1. A
2. B
3. C
4. F

2-16. Telephone jacks connectors can be used to connect a conductor to which connector?

1. A
2. C
3. D
4. F

2-17. Contacts or pins on plugs or receptacles are male or female except on which of the following connectors?

1. B
2. C
3. D
4. F

2-18. Provisions for shielding against shock and vibration can be on all except which of the following connectors?

1. A
2. C
3. D
4. E

2-19. Hardware is used to secure which of the following connections and provide stability against shock and vibration?

1. C
2. D
3. E
4. F

2-20. Internal connectors are used inside the computer for which of the following reasons?

1. To connect the computer to a display system
2. To provide power to the computer only
3. To interconnect major individual units inside the computer only
4. To interconnect major individual units inside the computer and provide power to the computer

2-21. What precaution should you use when making connections for pcb's, modules, or subassemblies?

1. Secure the power to the computer and ensure the receptacle and plug match
2. Ensure that the receptacle or plug has guide pins
3. Force the connection
4. Both 2 and 3 above

2-22. Which of the following documents can be used to find the signal names used by a computer?

1. The wire listings only
2. The computer's prints only
3. The description of a pcb only
4. The computer's wire listings, prints, and/or a description of each pcb

2-23. Internal conductors can only take mass data and route it for distribution throughout the computer.

1. True
2. False

2-24. To make effective use of limited space, what item is used to neatly organize conductor bundles internally?

1. Lacings
2. Spot ties
3. Wiring harnesses
4. Self-cliching straps

2-25. To secure the wires contained in a wire harness, which of the following items may be used?

1. Lacings only
2. Spot tying only
3. Self-clinching straps only
4. Lacings, spot tying, and self-clinching straps

2-26. If a conductor is partially replaced or completely replaced, a different grade (AWG) and type of conductor can be used.

1. True
2. False

2-27. In addition to securing power to the computer, what other precaution, if any, should be exercised when you are disconnecting and reconnecting power and data connections?

1. Follow the proper tag-out procedures
2. Document your actions in the computer room pass down log
3. Back up the data to a floppy or hard drive
4. None; no precautions are needed

2-28. The power requirements for all computers are identical regardless of where the computers are used.

1. True
2. False

2-29. To help mate connector receptacles and plugs properly, which of the following methods may be used?

1. Keying only
2. Physical shape only
3. Keying and physical shape

A. Flat
B. Ribbon
C. Twisted component or multiconductor
D. Coaxial
E. Fiber optic

Figure 2B.—Cable architecture.

IN ANSWERING QUESTIONS 2-30 THROUGH 2-34, SELECT FROM FIGURE 2B THE TYPE OF CABLE ARCHITECTURE THAT BEST MATCHES THE DESCRIPTION IN EACH QUESTION.

2-30. Conductors are separated by the dielectric core.

1. A
2. B
3. C
4. D

2-31. Can be terminated with card-edge connectors or IDCs.

1. B
2. C
3. D
4. E

2-32. Can have up to 120 conductors.

1. A
2. B
3. C
4. D

2-33. Capable of transmitting a 20-Mhz signal with minimum loss and no distortion.

1. A
2. B
3. C
4. D

2-34. Used for serial transfer of data only.

1. D only
2. E only
3. Dand E
4. A, B, and C

2-35. What is the most critical piece of equipment in any data system?

1. Memory
2. Computer
3. Connector
4. Disk drive

2-36. In cooling systems, what four methods of cooling are used?

1. Convection, forced air, air-to-air, and air-to-liquid
2. Forced air, air-to-air, microwaved, and convection
3. Air-to-liquid, air-to-air, microwaved, and forced air
4. Air-to-air, forced air, external fan-blown, and convection

2-37. What type of operator control is used to alter the speed of an internal computer clock or vary the intensity of indicators?

1. Thumbwheel switch
2. Potentiometer
3. Pushbutton
4. Mouse

2-38. To provide status information to the computer operator, which of the following devices may be used?

1. Dot matrix display only
2. Light-emitting diodes only
3. Dot matrix display and light-emitting diodes
4. Mouse devices

2-39. What is the simplest way to show the status of an operation or the selection of an item?

1. Send a message to a printer
2. Send a message to disk
3. Turn on a light
4. Sound an alarm

2-40. All of the following are types of indicators except which one?

1. Backlit
2. Opaque
3. Clear
4. Color

2-41. Protective devices can serve as controls.

1. True
2. False

2-42. To protect from accidental activation of selected keys and switches, what device is used with selected keys and switches?

1. Horn
2. Guard
3. Circuit breaker
4. Light-emitting diode

2-43. Switches have which of the following functions?

1. To activate a function
2. To turn a unit on/off
3. To set a parameter
4. Each of the above

2-44. A key switch you depress to activate a function and depress again to deactivate the function is called a/an

1. momentary-action key switch
2. alternate-action key switch
3. three-position key switch
4. on/off key switch

2-45. A key that repeats the fiction continuously while being held down is which of the following types of keys?

1. Momentary-action key
2. Alternate-action key
3. Toggle key
4. On/off key

2-46. Switches that have several positions the operator can select by turning a knob are which of the following types of switches?

1. Rotary switches
2. Pushbutton switches
3. Alternate-action toggle switches
4. Momentary-action toggle switches

2-47. All of the following are characteristics of thumbwheel switches except which one?

1. They have alphanumeric characters built in
2. Each position is locked until another position is selected
3. The position values are usually marked on the controlling unit cover
4. The positions are selected by dialing the switch

2-48. Pushbutton switches may not have indicators.

1. True
2. False

2-49. On toggle switches, which of the following can be uses of the neutral position?

1. Interact with software
2. Set a parameter
3. Disable a locked up/down position
4. Each of the above

2-50. Alternate-action toggle switches may have which of the following positions?

1. Permanent up and return to neutral only
2. Permanent up and down only
3. Either permanent up and return to neutral or permanent up and down, depending on design
4. On and off

2-51. Momentary-action/contact, two-position toggle switches are normally used for which of the following purposes?

1. To turn the unit on
2. To initiate an operation
3. To provide status information
4. To turn the unit off

2-52. On a three-position toggle switch, the center position may be used for which of the following purposes?

1. To set a parameter only
2. To disable the locked up/down position only
3. Either to set a parameter or to disable the locked up/down position, depending on the function
4. To provide status information

2-53. You should expect to find all of the following types of information about controlling units in the technical manuals and owner's manuals of your system except which one?

1. General description of the unit
2. Tables and figures to describe each control and indicator
3. Circuit diagrams with information for maintenance
4. Manufacturing specifications and design requirements

2-54. In addition to operational programs, what other type of programs will you be using to perform preventive maintenance?

1. Diagnostic programs
2. Applications programs
3. Word processing programs
4. Database management programs

2-55. Information about each control and indicator will include all except which of the following information?

1. Name
2. Type
3. Date installed
4. Function and use

2-56. In addition to providing power indicators, which of the following other important functions do power/temperature panels provide?

1. Notify you of an overtemperature condition
2. Enable you to modify the temperature setting for efficient operation
3. Both 2 and 3 above
4. Shut down the system automatically when an overtemperature condition is reached

2-57. From the operator panel you can perform all of the following functions except which one?

1. Initiate computer operations
2. Monitor computer operations
3. Put the computer in battle short condition
4. Power up/down individual designated modules

2-58. Built-in test (BIT) controls and indicators are included on which of the following panels?

1. Operator panel
2. Power/temperature panel
3. Control and maintenance panel
4. Each of the above

2-59. During operation and maintenance, all of the following are computer monitoring capabilities from a control and maintenance panel (CMP) except which one?

1. Software availability
2. Hardware availability
3. Switch settings
4. Jump stops

2-60. The ac plasma part of a display control unit has which of the following functions?

1. Provides you operational information
2. Provides you corrective maintenance information
3. Interfaces with the CPU/IOC and memory
4. Both 2 and 3 above

2-61. A built-in microprocessor with five levels of controls and indications for loading and initiating operations, monitoring operations, status indications, operator interfacing, and self-testing is part of what type of controlling unit?

1. Maintenance console unit
2. Computer control panel
3. Display control unit
4. Operator panel

2-62. To perform diagnostics on a computer, what type of controlling unit enables you to use a data terminal and diagnostics stored on a magnetic tape?

1. Operator panel
2. Maintenance console
3. Display control unit
4. Computer control panel

2-63. From a computer control panel, you can perform which of the following types of monitoring?

1. Operational program status only
2. Display registers only
3. Switch settings only
4. Switch settings, display registers, and computer operations

2-64. What controlling unit enables you to operate the computer set under expanded and varied conditions, at various operating speeds, and in various operating modes?

1. Operator panel
2. Maintenance console
3. Power/temperature panel
4. Computer control unit

2-65. When you manually interface with the CPU and IOC for software enhancement, what is the name of the function you are performing?

1. Diagnostic programming
2. Operator programming
3. Inspect and change
4. Casualty control

2-66. A keyboard will be your primary device for controlling what type of computer, if any?

1. Mainframe
2. Minicomputer
3. Microcomputer
4. None; keyboards are not used to control computers

2-67. On a microcomputer, what is the primary method used to provide information to you?

1. Printer
2. Monitor
3. Light-emitting diodes
4. Indicator lights on the keyboard

2-68. The meanings of function keys and control keys can be assigned in which of the following ways?

1. By the computer hardware manufacturer only
2. By the computer program only
3. By the operating system only
4. By both the computer program and the operating system

2-69. In addition to the keyboard, what other device may you use as a controlling device with the monitor to control the operations of a microcomputer?

1. Mouse
2. Key switch
3. Rotary switch
4. Toggle switch

2-70. Of the following devices, which one can provide both input to a computer and output from a computer?

1. Mouse
2. Printer
3. Teletype
4. Keyboard

2-71. A teletype is composed of which of the following components?

1. Printer only
2. Keyboard only
3. Printer and keyboard only
4. Printer, keyboard, and monitor

2-72. From remote consoles and remote operator control units, you may be able to perform all except which of the following functions?

1. Power the computer set up/down
2. Initiate computer operations
3. Monitor computer status
4. Perform self-testing